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September 4, 2002

Docket Management System
U.S. Department of Transportation
Room PL 401,
400 Seventh Street, S.W.
Washington, DC 20590-0001

Subject: RSPA-01-10373 (HM-220D) -15

Gentlemen:

This letter represents an appeal by the BOC Gases to Docket RSPA-01-10373 (HM-220D) as required by 49 CFR §§ 106.110 and 106.115.

BOC Gases operates in over 50 countries world wide and participates extensively in standards generating organizations that develop and promote safety standards and safe practices in the industrial, medical electronic and specialty gas industries. Accordingly BOC has a strong interest in domestic and international regulations governing these products.

BOC can find no justification for an effective date just over sixty days from the initial notice in the Federal Register. NPRM HM-220 was open for over three years before it was finally withdrawn. To expect compliance of final rule HM-220D in such a short time is unreasonable. This Final Rule should be withdrawn and converted to a Notice of Proposed Rulemaking with sufficient time to review and comment on the proposal.

A brief review of this final rule has revealed the following issues that BOC feels must be addressed:

PAGE: 51642
§173.40 (a) (2).
Proposed change: "...or disposal of the cylinder's contents until October 1, 2003."

Justification: Realistically it will take more time to recover all of these cylinders. These cylinders while with our customers are out of our direct control. Even a recall would not accomplish a recovery within 6 months.

PAGE: 51642
§173.40 (b)
Proposed change: Change to "...at [Decide on one set of values: 54 °C (130 °F), OR, 55 °C (131 °F)] may not..."
Justification: To be consistent with the rest of the rules.

PAGE: 51642
§173.40 (b)
Proposed change: Change to "...will not be liquid full at [Decide on one set of values: 54 °C (130 °F), OR, 55 °C (131 °F)]..."
Justification: To be consistent with the rest of the rules.

PAGE: 51642
§173.40 (c)
Proposed change: This is a request for clarification. Does this mean any amount of a 2.3 Hazard Zone A gas?

PAGE: 51642
§173.40 (d) (2)
Proposed change: change to "...sufficient to protect the valve from leakage resulting from..."
Justification: Deformation although undesirable should be acceptable provide there is no loss of contents. The objective is to stop valve shearing and any leakage.

PAGE: 51643
§173.301 (a) (3) last sentence.
Proposed change: "... except by removal and replacement of the pressure relief device."
Justification: Gas suppliers do not have the expertise to repair PRDs. This operation is something that a PRD manufacturer or a valve manufacturer would perform. Gas suppliers replace PRDs.

PAGE: 51644
§173.301 (a) (8) 1st sentence.
Proposed change: "...hazardous material at [Decide on one set of values: 54 °C (130 °F), OR, 55 °C (131 °F)] may not..."
Justification: For consistency throughout the rest of the regulations.

PAGE: 51644

§173.301 (a) (8) 2nd sentence.
Proposed change: "...liquid full at [Decide on one set of values: 54 °C (130 °F), OR, 55 °C (131 °F)]."
Justification: For consistency throughout the rest of the regulations.

PAGE: 51644
§173.301 (d) Last sentence.
Proposed change: "...of the cylinder's contents until October 1, 2003."
Justification: Realistically it will take more time to recover all of these cylinders. These cylinders while with our customers are out of our direct control. Even a recall would not accomplish a recovery within 6 months.

PAGE: 51644
§173.301 (f) (2)
Proposed change: change to "...be in communication with the vapor space when oriented in the position of normal use."
Justification: Requires the inlet port to the relief channel to be in communication with the vapor space. BOC does not believe there is a technical justification for this requirement. This is not possible with present technology. To be compliant, valves would have to be re-designed. This would take a considerable amount of time and expense. Further, all presently deployed valves would, as the rules are presently written, become obsolete and non-compliant. This represents a tremendous cost burden without a clear technical justification or a quantified expectation of increase in safety. NOTE: What is being required here is a valve configured such that no mater what the orientation of the package, the inlet port to the relief channel is in contact with the gaseous phase of the contents of the package.

BOC has vast numbers of valves in liquefied gas service. The cost could easily run into the millions of dollars. Further, it is not believed the valve manufacturing industry would have the capacity to provide enough replacements in the given time frame.

PAGE: 51644
§173.301(f)(3)
Proposed change: "... the burst pressure of the CG1, CG4, CG5 pressure relief devices must be set at test pressure..."
Justification: The burst pressure requirement only applies to CG1, CG4 and CG5 configurations. It does not apply to CG2, CG3, CG7 or CG9 PRD configurations because of the way the device is designed

to function. GC2, CG3 and CG9 are fuse metal devices, and CG7 is a spring-loaded device.

PAGE: 51644
§173.301(f)(5)
Proposed change: Change wording to "...or a Nonliquefied gas charged to a pressure greater than 1800 psig at 21 degrees C ..."
Justification: The industry ships vast numbers of DOT-E1800 "lecture bottles" which are rated for 1800 psig. The change would permit the continued shipment of the cylinders without a PRD. BOC is not aware of a problematic service history that would compel a change in this packaging requirement.

PAGE: 51644
§173.301(g) (1) 6th sentence.
Proposed change: Delete this sentence entirely.
Justification: This requirement should be deleted for 2.2 gases. This change would take a considerable amount of time and expense. Additionally all presently deployed valves would, as the rules are presently written, become obsolete and non-compliant. A tremendous cost burden without a clear technical justification or a quantified expectation of increase in safety.

PAGE: 51645
§173.301(h) (1) (vii)
Proposed change: Change to "A small cylinder containing acetylene; it's shell having a water capacity of less than X liters."
Justification: This would reflect present practice where B and MC size cylinders are not required to have valve protection. Certainly it is not the intent of this regulatory change to permit the shipment of larger size acetylene cylinders without valve protection.

PAGE: 51645.
§173.301(h) (3).
Proposed change: change to "...in this paragraph (h)(3). In the case of cylinder caps and valve guards, the device must be marked, by stamping into the part, "§173.301(h) (3)". Examples..."
Justification: Since this will apply to all gases, regardless of hazard classification, the DOT must establish a marking system to identify these new parts - in particular cylinder caps and guards. Otherwise there will be no industry recognized system for identification and the rule will be unenforceable.

PAGE: 51644

§173.301(f)(3)
Proposed change: Change wording to "...cylinder, from the first valve change out due on or after October 1, 2002..."
Justification: The immediate change out of these PRDs is not driven by an identified urgency. The effective point of change being valve change out reduces unnecessary costs and even perhaps a delay in obtaining the replacement PRDs due to the tremendous demand that will be placed on PRD manufacturers. Additionally and just as important, is that the valves used in the electronics industry will have to be removed from the cylinders to effect a PRD change out. This is for cleanliness reasons.

PAGE: 51645
§173.301 (l) (3)
Proposed change: Delete this paragraph in its entirety.
Justification: This requirement should be deleted for 2.2 gases. This change would take a considerable amount of time and expense. Additionally all presently deployed valves would, as the rules are presently written, become obsolete and non-compliant. A tremendous cost burden without a clear technical justification or a quantified expectation of increase in safety. As this would apply to 2.2 gases, (2.1 gases must vent upward and 2.3 gases are not equipped with a PRDs), delete this paragraph in its entirety.

PAGE: 51645
§173.301a (c)
Proposed change: [Decide on one set of values: 54 °C (130 °F), OR, 55 °C (131 °F)]
Justification: For consistency throughout the rest of the regulations

PAGE: 51646
§173.301a (d)
Proposed change: [Decide on one set of values: 54 °C (130 °F), OR, 55 °C (131 °F)]
Justification: For consistency throughout the rest of the regulations

PAGE: 51646
§173.301a (d) (2)
Proposed change: [Decide on one set of values: 54 °C (130 °F), OR, 55 °C (131 °F)]
Justification: For consistency throughout the rest of the regulations

PAGE: 51646
§173.301a (d) (2)

Proposed change: Change to "...may not exceed 5/4 the value of service pressure +10%.
Justification: To clarify. One may interpret this as the pressure they arbitrarily filled the cylinder to regardless of the intent of the regulations.

PAGE: 51646
§173.301a (d) (3)
Proposed change: [Decide on one set of values: 54 °C (130 °F), OR, 55 °C (131 °F)].
Justification: For consistency throughout the rest of the regulations

PAGE: 51646
§173.302 (b) (2)
Proposed change: Change to "...must be constructed of brass."
Justification: It is not common practice to use stainless steel in oxygen service. Special considerations need to be applied to the use of stainless steel in oxygen.

PAGE: 51647
§173.302a (b) (i) (B) (iii)
Proposed change: Just a note. This paragraph is in conflict with the preamble page 51633 which states "we are not authorizing the use of an REE marking applied to the cylinder by a person other than the manufacturer because it may be inaccurate."
Justification: By computing the REE using the methods detailed in C-5 a valid value can be determined and marked on the cylinder. Why can not the REE previously marked on the cylinder by someone other than the cylinder manufacturer be used? The assumption is that the REE was determined by using C-5. If you assume otherwise, then how will you tell the difference between what the manufacturer had marked on the cylinder and what was not? Note: C-5 has been around a long time and people have used C-5 to determine and mark REEs on cylinders.

PAGE: 51647
§173.304 (b) 1st sentence
Proposed change: [Decide on one set of values: 54 °C (130 °F), OR, 55 °C (131 °F)].
Justification: For consistency throughout the rest of the regulations

PAGE: 51647
§173.304 (b) 2nd sentence
Proposed change: [Decide on one set of values: 54 °C (130 °F), OR, 55 °C (131 °F)].

Justification: For consistency throughout the rest of the regulations

PAGE: 51647
§173.304 (d)
Proposed change: [Decide on one set of values: 54 °C (130 °F), OR, 55 °C (131 °F)].
Justification: For consistency throughout the rest of the regulations

PAGE: 51650
§173.304a (4)
Proposed change: This is a question. A specific gravity of 9.504 at 16 °C is stipulated. Is this specific gravity correct? I think not.
Justification:

PAGE: 51652
§177.80 (a) (1) 2nd sentence
Proposed change: Delete
Justification: Not sure if there is a technical justification for this requirement, however to be compliant, valves would have to be re-designed. This would take a considerable amount of time and expense. Additionally all presently deployed valves would, as the rules are presently written, become obsolete and non-compliant. A tremendous cost burden without a clear technical justification or a quantified expectation of increase in safety. NOTE: What is being required here is a valve configured such that no mater what the orientation of the package, the inlet port to the relief channel is in contact with the gaseous phase of the contents of the package.

PAGE: 51653
§178.46 Table 1
Proposed change: Change the Pb and Bi max to 0.003 %
Justification: This is what was agreed for ISO 7866 and what was adopted at the United Nations. This should be harmonized now.

PAGE: 51660
§180.203 Definitions Non-corrosive service.
Proposed change: Change wording to "...materials of construction of a cylinder (including valve, pressure relief device, etc...) but excluding oxygen."
Justification: As written this will prevent oxygen from being placed into a 10-year retest frequency as is current practice.

PAGE: 51660
§180.203 Definitions Over-heated

Proposed change: Add a warning: "WARNING: This requirement pertains to an instantaneous heating. This requirement does not imply that heating cylinders at slightly lower temperatures for longer periods of time is an acceptable practice. Before heating cylinders for any purpose, the manufacture should be contacted for time and temperature relationships and limits."
Justification: Temperature is only half of the relationship. There is a time requirement that must be considered when heating cylinders. The effects on the material are accumulative. The proposed changed wording alerts the user to the time interval associated with the proposed temperatures and alerts them to the need to contact the manufacturer for heating operations.

PAGE: 51661
§180.205 (c) (4)
Proposed change: "... the burst pressure of the CG1, CG4, CG5 pressure relief devices must be set at test pressure..."
Justification: The burst pressure requirement only applies to CG1, CG4 and CG5 configurations. It does not apply to CG2, CG3, CG7 or CG9 PRD configurations because of the way the device is designed to function. GC2, CG3 and CG9 are fuse metal devices, and CG7 is a spring-loaded device.

PAGE: 51661
§180.205 (d) (1)
Proposed change: Change wording to "...in excess of what is permitted by CGA pamphlets C-6, C-6.1, C-6.2, C-6.3, C-8, C-13, or any other ..."
Justification: This requirement is good in concept and is what is practiced in a practical manner by responsible gas companies, however as written, <u>any</u> of the listed conditions, regardless of how inconsequential would require requalification. This change will better reflect what is intended.

PAGE: 51661
§180.205 (f) (4)
Proposed change:
Justification: Evidence of unacceptable extent of SLC can not be determined in a reliable manner by visual means. There will be numerous cylinders rejected for folds or non-fills in the neck/shoulder transition and shoulder area. These features are not necessarily detrimental to the structural integrity of the cylinder. More concerning is that here will be an equal number of cylinders which pass visual inspection that have tight SLC cracks. Some of these may have progressed to the point of concern, while other may

have not. If SLC is a concern, and this must be considered in light of the service pressure, thread form, and the concept of leak before burst, NDT methods are the only effective solutions to the inspection problem. The acceptance criteria should be proposed to the DOT, complete with sound justification. These proposals should be open for pubic comment.

BOC believes this rulemaking represents a major change in the regulations requiring a much more thorough review and respectfully requests Final Rule HM-220D be withdrawn.

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